

USSR

UDC 539.377

PODSTRIGACH, YA. S., BESEDINA, L. P.

"Concerning the Link Between Temperature Stresses and Dislocation Stresses in Shells of Revolution"

Kiev, Prikladnaya Mekhanika, No 8, 1970, pp 3-8

Abstract: The article deals with temperature fields which do not bring about stresses in the case of arbitrary deformation of shells of revolution. The problem of finding temperature stresses which can be effected by means of discrete dislocations is solved. From the conditions of compatibility of the purely thermal constituents of the deformation components of the central surface and the single-valued nature of purely thermal shifts and turns, the result is obtained that temperature fields which are only linear with respect to Cartesian coordinates do not bring about stresses in a free shell of revolution. The temperature fields which, in the shell under consideration, bring about stresses which correspond to dislocation stresses, are determined. The corresponding dislocation stresses and moments in a closed spherical shell are found.

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UDC 539.12.04;541.6;531.781

PLYATSKO, G. V., and PODSTRIGACH, YA. S., Institute of Physico Mechanics,
Academy of Sciences Ukrainian SSR

"Laser-Beam-Induced Stress in the Breakdown of Transparent Polymers"

L'vov, Fiziko-Khimicheskaya Mekhanika Materialov, No 3, May-June 70, pp 93-97

Abstract: An investigation was made of processes involved in the failure of transparent solids by a laser beam and to explain the mechanism of light energy absorption sufficient for this failure. Processes of laser energy absorption by solids have a complex physical nature, and determination of the stressed state is caused by phenomena which are associated with the transformation of electromagnetic energy into mechanical energy. A portion of the paper deals with vector and tensor analysis of the energy input from a laser beam. From the mathematical data obtained the authors confirmed that absorption of energy of the proper magnitude will cause the bonds between monomers in the material to break.

1/1

1/2 029

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--INFLUENCE OF THE TEMPERATURE FIELD PROFILE ON THE RELAXATION OF
RESIDUAL STRESSES DURING LOCAL HEATING OF RING SHAPED WELDS -U-
AUTHOR--(05)-POOSTRIGACH, YA.S., GORACHEVA, Z.I., BURAK, YA.I., BESEDINA,
L.P., KAZAKOVA, L.A.
COUNTRY OF INFO--USSR

SOURCE--FIZIKO KHIMICHESKAIA MEKHANIKA MATERIALOV, VOL. 6, NO. 1, 1970, P
42-45
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--RESIDUAL STRESS, METAL RING, THERMAL STRESS, WELD JOINT,
STRESS RELAXATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0936

STEP NO--UR/0369/70/006/001/0042/0045

CIRC ACCESSION NO--AP0116445

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116445

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE DEPENDENCE OF THERMAL STRESSES ON THE TEMPERATURE FIELD PROFILE DURING LOCAL AXISYMMETRICAL HEATING OF RIGID CYLINDRICAL SHELLS. THIS PROBLEM REDUCES TO THE DETERMINATION OF TEMPERATURE FIELDS WHICH, AT A GIVEN TEMPERATURE LEVEL AND WIDTH OF THE HEATING ZONE, GUARANTEE A RELATIVELY LOW LEVEL OF MAXIMUM STRESSES. AN EXPERIMENTAL STUDY IS MADE OF THE USE OF EXTREMUM TEMPERATURE FIELDS FOR LOCAL STRESS RELIEF OF RING SHAPED WELDS. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, FIZIKO MEKHANICHESKII INSTITUT, LVUV, UKRAINIAN SSR.

UNCLASSIFIED

USSR

BURAK, YA. I., GRIGOLYUK, E. I., and PODSTRIGACH, YA. S.

"Use of Methods of the Calculus of Variations to Solve Problems in the Optimal Heating of Thin Shells"

Tr. VII Vses. konferentsii po teorii obolochek i plastinok (Proceedings of Seventh All-Union Conference on Shell and Plate Theory), 1969, Moscow, "Nauka", 1970, pp 101-109 (from RZh-Mekhanika, No 1, Jan 71, Abstract No 1V150 by V. N. Kuznetsov)

Translation: The authors determine the temperature field, the presence of which in a thin-walled elastic shell results in the appearance of the stressed state which is "optimal" in the sense that the elastic energy of the shell is minimal. Nontriviality of the solution is due to the additional conditions of the following two kinds: 1) translational components, average temperature T and temperature factor T_2 satisfy certain differential equations in given subregions of the region S_0 occupied by the median surface; 2) on certain contours belonging to S_0 , translational components and temperature characteristics T_1 and T_2 , as well as their derivatives are connected by given

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BURAK, YA. I., et al., Tr. VII Vses konferentsii po teorii obolochek i plastinok, 1969, Moscow, "Nauka", 1970, pp 10,-109

correlations. These conditions are considered consistent with shell theory and conditions (1).

The problem here formulated is solved as follows: Elastic shell energy is regarded as a functional given on a set of solutions to a system of resolvents of the thermoelasticity boundary-value problem for a given shell; the existence of a set of solutions is in keeping with the fact that the temperature field is regarded, subject to natural constraint, as arbitrary, but as satisfying additional conditions (1) and (2). With the help of generalized functions the formulated problem is reduced to a search for the absolute extremum of the functional, an explicit expression of which is presented. The Euler equations corresponding to this functional contain as coefficients generalized functions of the type of the Heaviside θ function, the Dirac δ function and derivative δ' . It is asserted that the obtained equations, together with the resolvents of the formulated boundary value problem for the shell and with additional conditions (1) and (2), form a complete system of equations for determining the extremal temperature field and corresponding states of stress and strain.

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USSR

BURAK, YA. I., et al., Tr. VII Vses. konferentsii po teorii obolochek i plastinok, 1969, Moscow, "Nauka," 1970, pp 101-109

A solution is given to the problem of axisymmetric local heating of an infinite cylindrical shell in two cases: a) where the temperature, constant in thickness ($T_2 = C$), assumes prescribed values in five normal cross sections of the shell -- it equals zero in the end cross sections of the shell and has a relative minimum in the middle section; b) where average temperature T_1 is given and function T_2 is unknown (without additional limitations of type (1)). Average temperature distribution is selected from the solution of the preceding problem. Stress diagrams, calculated for a shell with $\nu = 0.3$ and $R/h = 40$, are presented, in which various heating methods are compared. A two dimensional problem for a cylindrical shell is considered. The authors obtain a general solution and indicate a simple expression for the extremal temperature field, which is continuous together with the first derivative.

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UDC: 539.3/.5

SAVIN, G. N., PODSTRIGACH, Ya. S.

"On the Effect Which Diffusion Processes Have on the Stressed State of Deformable Bodies"

V sb. Probl. mekhan. tverd. deformir. tela (Mechanics of a Deformable Solid -- collection of works), Leningrad, "Sudostroyeniye," 1970, pp 391-403 (from RZh-Fizika, No 9, Sep 70, Abstract No 9Ye576)

Translation: The article concerns a survey of works in which the effect of diffusion processes on the stressed state is studied within the framework of the mechanics of a continuous medium with regard to generalized conditions of physical and mechanical coupling of deformable solids. It is shown that the satisfaction of these conditions, which make it possible to describe surface diffusion and diffusion along the interfaces of the material and the contact surfaces, may lead not only to a change in stresses but also to an appreciable change in the nature of the stressed state.

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1/2 029

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--HYDRAULIC RESISTANCE OF ANNULAR AND DISPERSANNULAR SYSTEMS OF TWO
PHASE MIXTURE FLOW -U-

AUTHOR--(02)-PERMYAKOV, V.V., PODSUSHNYY, A.M.

COUNTRY OF INFO--USSR

SOURCE--INZH. FIZ. ZH. 1970, 18(3), 409-13

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HYDRAULIC RESISTANCE, TWO PHASE FLOW, PRESSURE GRADIENT, METAL
TUBE, CALCULATION, WATER, SURFACE TENSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0376

STEP NO--UR/0170/70/013/003/0409/0413

CIRC ACCESSION NO--AP0111569

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--2300170

CIRC ACCESSION NO--AP0111569

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. WERE CARRIED OUT IN A HORIZONTAL TUBE 19 MM IN DIAM. THE STATIC PRESSURES WERE SAMPLED AT 30, 445, 1017, AND 1609 MM FROM THE FEED POINT OF THE LIQ. THE PRESSURE DROP WAS MEASURED WITH DIFFERENTIAL MANOMETERS FILLED WITH WATER. ANNULAR 2 PHASE FLOW WAS FORMED BY LIQ. INJECTION THROUGH AN ANNULAR SLIT IN THE TUBE WALL INTO A TURBULENT AIR FLOW. AN EQUATION IS DERIVED FOR WATER THAT CANNOT BE APPLIED TO KEROSINE OR TRANSFORMER OIL. THE RESISTANCE DEPENDS ON THE SURFACE TENSION. THE EQUATION FOR THE HYDRAULIC RESISTANCE OF ANNULAR AND DISPERSE ANNULAR FLOWS DESCRIBES THE EXPTL. DATA WITH AN ERROR OF PLUS OR MINUS 20PERCENT. FACILITY: DAL'NEVOST. POLITEKH. INST. IM. KUIBYSHEVA, VLADIVOSTOK, USSR.

UNCLASSIFIED

ПОДТЕЛЕЗНА РОЗ, І. А.

DESIGN AND PRE-REACTOR TESTING OF CONTROL UNITS OF THE BN-150 REACTOR

Prepared by I. A. Podtelezhnikov, I. A. Podtelezhnikov, Senior Engineer, Scientific and Technical Department, Specialized Design Bureau, International Scientific Center for Reactor Specialists Meeting, Dneprovsk, 1-2 June 1973

In this paper, the basic principles of the design and testing of rods for a fast-neutron reactor with sodium coolant, of type BN-150, are explained. The basic requirements imposed upon the control units are formulated, their characteristics are given, and also attention is directed to the design features of the control units of the BN-150 reactor. The features of the control units of the BN-150 reactor are considered, and data concerning materials applied for the absorbers and the jacket are reported. The design of the control units of the BN-150 reactor is given. First data on the test of the rods are reported. A list of test stands intended for the testing of control units and slave mechanisms of the BN-150 reactor is given. A comparison of the results of the tests is indicated. The role of tests of the BN-150 units on the stand is evaluated. In the selection of the optimum design of them for application in the BN-150 reactor.

Features of the designing of control units for the BN-150 fast reactor

The selection of the method of regulating reactivity of a fast power reactor is determined by the efficiency of the

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UDC: 621.372.01-503.25

OS'MANIN, A. A., PODUNAYEV, G. A., KRUGLIKOV, G. A.

"On the Time Resolution of Circuits With a Selective Tank"

Uch. zap. Ul'yansovsk. gos. ped. in-t (Scientific Notes of Ulyanovsk State Pedagogical Institute), 1970, 24, No 3, part 2, pp 307-314 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A86)

Translation: The authors introduce the concept of time resolution of the circuits they are investigating. It is shown that analytical determination of time resolution requires derivation of an expression for the dynamic frequency characteristic of the system. Such a frequency characteristic is analyzed. The resultant expressions are used as a basis for determining the resolution as a function of the parameters of the input signal and circuit parameters. Four illustrations, bibliography of six titles. N. S.

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USSR

UDC 614.39/.4:658.387

PODUNOVA, L. G., FURSOVA, T. T., LIPOVTSEVA, V. V., and EMNINA, A. I.,
Republic Sanitary-Epidemiologic Station, RSFSR Ministry of Health, Moscow

"Some Elements of the Scientific Organization of Labor in Sanitary-
Epidemiological Stations"

Moscow, Gigiyena i Sanitariya, No 10, 1973, pp 60-62

Abstract: Councils for the scientific organization of labor were appointed in major oblast sanitary-epidemiological stations to seek ways of saving time, making more efficient use of personnel and materiel, and mechanizing labor-intensive activities and laboratory tests. Actions taken at various sanitary-epidemiological stations under the guidance of these councils include: reduction of the paper work normally required of health officers, assigning more duties to paramedical personnel, centralization or consolidation of facilities, improvement of work places, adoption of new, rapid laboratory tests, and introduction of a standard form for the collection and analysis of data on infectious diseases.

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1/2 032

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--INVESTIGATION OF THE FRICTION PROCESS DURING THE VIBRATIONAL
CUTTING OF HIGH STRENGTH ALLOYS -U-

AUTHOR--(02)-PODURAYEV, V.N., VALIKOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY, MASHINOSTROYENIYE,
NO. 1, 1970, PP 138-142

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HARD ALLOY, STAINLESS STEEL, METAL CUTTING, FRICTION, METAL
DRILLING, VIBRATION EFFECT/(UIKH18M9T STAINLESS STEEL, (UIVK8 HARD TOOL
ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1985/0515

STEP NO--UR/0145/70/000/001/0138/0142

CIRC ACCESSION NO--AT0100977

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--13SEP70

CIRC ACCESSION NO--AT0100977

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DESCRIBES INVESTIGATIONS OF FRICTION UNDER CONDITIONS APPROXIMATING FRICTION ALONG THE FRONT AND REAR EDGES OF A TOOL DURING VIBRATIONAL CUTTING (DRILLING), AND BASED ON STUDY OF THE MAGNITUDE OF NORMAL PRESSURE, ON THE STUDY OF THE FRICTION PAIR (VK8 HARD TOOL ALLOY AND KH18N9T STAINLESS STEEL), AND ON THE MAGNITUDE OF THE CUTTING SPEED. FOR THE STUDY, SPECIAL EQUIPMENT WAS DESIGNED AND ADDED TO A MODIFIED LATHE. THIS EQUIPMENT AND THE SETUP USED TO PRODUCE INTERMITTENT VIBRATIONAL CUTTING ARE DESCRIBED BRIEFLY. TWO SETS OF RELATIONSHIPS WERE DERIVED, THE FIRST FOR FRICTION IN CASTOR OIL AND SULPHAFREZOL (SIC) AND IN DRY FRICTION AT LOW FEED PRESSURES AND FRICTION IN SULPHAFREZOL (SIC) AND IN DRY FRICTION AT HIGHER RATES AND PRESSURES. THE EXPERIMENT DATA INDICATE THAT THE CHARACTER OF THE RELATIONSHIPS FOR DRY FRICTION AND FRICTION IN SULPHAFREZOL (SIC) COINCIDE. IT WAS DETERMINED THAT VIBRATIONAL CUTTING PRODUCED LOWER FRICTION COEFFICIENTS THAN STEADY CUTTING; HOWEVER, AN INCREASE IN THE TORSION MOMENT WITH TIME WAS NOTED. THIS IS EXPLAINED AS BEING DUE TO INCREASING FRICTION ON THE REAR SURFACES OF THE DRILL.

UNCLASSIFIED

1/2 019 UNCLASSIFIED
TITLE--WORKING BY CUTTING WITH VIBRATIONS -U- PROCESSING DATE--04DEC70
AUTHOR--PODURAYEV, V.N.
COUNTRY OF INFO--USSR
SOURCE--WORKING BY CUTTING WITH VIBRATIONS (OBRABOTKA REZANIYEM S
VIBRATSIYAMI) MOSCOW. MASHINOSTROYENIYE. 1970 350 PP.
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--VIBRATION EFFECT, CUTTING TOOL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/1289 STEP NO--UR/0000/70/000/000/0001/0250
CIRC ACCESSION NO--AM0130260
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AM0130268

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. TABLE OF CONTENTS: INTRODUCTION

3. CHAPTER I INDUSTRIAL APPLICATION OF VIBRATIONS IN CUTTING. THE
METHOD OF DETERMINING OPTIMUM CONDITIONS 6. II KINEMATICS OF THE
PROCESS OF CUTTING WITH VIBRATIONS 18. III MECHANICS OF THE PROCESS
OF CUTTING WITH VIBRATIONS 99. IV MAIN PHYSICAL INDEXES OF THE
PROCESS OF CUTTING WITH VIBRATIONS 156. V THE INTERMITTEND PROCESS
OF CUTTING WITH VIBRATIONS 232. VI THE IMPROVEMENT OF OPERATIONS OF
TURNING BY UTILIZING VIBRATIONS RESULTING FROM THE PROCESS OF CUTTING
EXTERNALLY PRESET BY VIBRATORS 267. VII RATIONALIZATION OF
OPERATIONS OF BORING OPENINGS BY QUENCHING HARMFUL VIBRATIONS OR BY
UTILIZING USEFUL ONES 295. VIII THE CUTTING OF THREADS BY TAPS WITH
VIBRATIONS 318. CONCLUSION 344. LITERATURE 345. THE BOOK
DESCRIBES THE BASIC PHYSICAL CHARACTERISTICS AND GIVES RECOMMENDATIONS
FOR THE APPLICATION OF ONE OF THE NEW METHODS OF MECHANICAL WORKING,
CUTTING WITH VIBRATIONS. EXAMINED ARE QUESTIONS ON KINEMATICS,
MECHANICS AND PHYSICS OF THE PROCESS OF CUTTING WITH VIBRATIONS, AND A
METHOD IS GIVEN FOR TYPICAL OPERATIONS: TURNING, BORING, CUTTING
THREADS, WITH THE USE OF VIBRATIONS.

UNCLASSIFIED

USSR

UDC: 51:330.115

PODUZOV, A. A.

"Modeling Economic Growth Under Conditions of Scientific and Technical Progress"

V sb. Kibernetiku--na sluzhbu kommunizmu. T. 6 (Cybernetics in the Service of Communism, vol 6), Moscow, "Energiya", 1971, pp 83-112 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V511)

Translation: The article is a survey devoted to basic areas of research in the field of macrosimulation of economic dynamics with regard to technical progress. The first section includes general problems in modeling the industrial sector of economy on the basis of production functions. The second section deals with economic models in which an exogenetically given function of time is used to account for the effect of technical progress. The third section is devoted to a description of attempts to formalize the process of development of science and technology and their influence on economics. Bibliography of 21 titles. From the author's introduction.

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PODVAL'NYY, S. L.

Statistics

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20 Apr 72

73. WJW

PODVAL'NYY, S. L.

DO NOTED

Statistical Control of the Quality of the Work of the Industrial Enterprise

Podval'nyy, S. L. Statistical Control of the Quality of the Work of the Industrial Enterprise. Moscow, 1971. pp 17-109

Translation of abstract: The application of statistical methods for controlling a system of indirect control of qualitative indicators is considered. In this system the measurable indicators themselves and the statistical methods themselves represent qualitative random processes. The probability of the system being in a state of control is determined by the probability of the system being in a state of control. The quality of the work of the industrial enterprise is determined by the quality of the work of the industrial enterprise.

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Podval'nyy, S. L. Statistical Control of the Quality of the Work of the Industrial Enterprise. Moscow, 1971. pp 17-109

Podval'nyy, S. L. Statistical Control of the Quality of the Work of the Industrial Enterprise

Podval'nyy, S. L. Statistical Control of the Quality of the Work of the Industrial Enterprise

Podval'nyy, S. L. Statistical Control of the Quality of the Work of the Industrial Enterprise

Podval'nyy, S. L. Statistical Control of the Quality of the Work of the Industrial Enterprise

Translation of abstract: This article considers the design of a statistically-estimated model of an order filling system, in which goods arrive from the site and orders for their delivery are issued. The model is characterized by the number of goods in the system and the number of orders in the system. The model is characterized by the number of goods in the system and the number of orders in the system.

1/2 044
UNCLASSIFIED
TITLE--ELECTRONIC ENERGY SPECTRA AND THE EQUATION OF STATE OF SOLIDS AT
HIGH PRESSURES AND TEMPERATURES -U-
AUTHOR--(03)-VOROPINOV, A.I., GANDELMAN, G.M., PODVALNYY, V.G.
PROCESSING DATE--30OCT70
COUNTRY OF INFO--USSR
SOURCE--USP. FIZ. NAUK 1970; 100(2), 193-224
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ALUMINUM, IRON, SILVER, TITANIUM, POTASSIUM, CALCIUM, LEAD,
BIBLIOGRAPHY, HIGH PRESSURE EFFECT, PHYSICAL PROPERTY, QUANTUM
MECHANICS, TEMPERATURE EFFECT, ELECTRON ENERGY, SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/2001
CIRC ACCESSION NO--AP0118960
STEP NO--UR/0053/70/100/002/0193/0224
UNCLASSIFIED

2/2 044

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118960

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A REVIEW WITH 37 REFS. THE QUANTUM MECH. THEORY, CANCD. DATA ON ELECTRON ENERGY SPECTRUM, AND THE EQUATIONS OF STATE ARE DISCUSSED WHICH CAN BE USED TO CALCD. THE CHANGE IN PROPERTIES OF CRYST. SOLIDS AT ANY PRESSURE AND TEMPS. BELOW 100,000DEGREES K. CALCD. DATA ON THE PROPERTIES OF AL, FE, AG, TI, V, K, CA, AND PB ARE GRAPHED AND TABULATED FOR VARIOUS PRESSURES AND TEMPS.

UNCLASSIFIED

USSR

UDC 616.988.75-036.22.1969.(470.62)

KLOKOVA, G. F., TSYS', N. S., and PODVARKO, A. G., Chair of Infectious Diseases, Kuban' Medical Institute, and Second City Hospital, Krasnodar

"Clinical Characteristics of Influenza at Krasnodar"

Moscow, Sovetskaya Meditsina, No 6, Jun 71, pp 132-133

Abstract: During the first quarter of 1969 there was an increased incidence of influenza at Krasnodar. In the epidemic in question, the number of cases increased rapidly and then decreased slowly. During Jan-Mar 1969, 527 adults with influenza were treated at the Clinic of Infectious Diseases. The hemagglutination inhibition reaction was carried out with sera of 298 patients. It was positive in 43.9% of the cases; diagnostically reliable titers with the virus A2, A2 (Hong-Kong), and B were found in 90, 21, and 5 cases, respectively. A detailed study was carried out of 131 cases of serologically diagnosed influenza and, on the basis of the case histories, of 3 cases of patients who died. A comparison of the clinical course of influenza in 1967 with that in 1969 showed that the 1969 epidemic was more severe. Influenza in a severe form was encountered in 21.6% of cases in 1969 vs. 3.3% in 1967. Complications developed in 46.2% of cases in 1969 vs. 34.7% in 1967. Of patients who were hospitalized, 3% (4 of 134 patients) died in 1969, while none died in 1967.

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KLOKOVA, G. F., et al., Sovetskaya Meditsina, Vol 34, No 6, Jun 71, pp 132-133

The clinical symptoms observed in 1969 and 1967 did not differ significantly; there were a brief period of fever and an acute toxic condition that developed within 1-2 days.

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1/2 017
TITLE—CLINICO LABORATORY PECULIARITIES OF CURRENT DYSENTERY ACCORDING TO
MATERIALS OF KRASNODAR SECOND CITY HOSPITAL -U-
AUTHOR—(05)—KLOKOVA, G.F., ~~PODVARKO, A.G.~~ TSYS, N.S., ANOSHINA, L.I.,
GUNCHAROVA, YE.I.
COUNTRY OF INFO—USSR
SOURCE—ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6,
PP 37-40
DATE PUBLISHED—70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS—DYSENTERY, ANTIBIOTIC RESISTANCE, STREPTOMYCIN,
CHLORAMPHENICOL/CLINDAMYCIN ANTIBIOTIC

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRA--3001/0833

STEP NO--UR/0016/70/000/006/0037/0040

CIRC ACCESSION NO--AP0126510

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--300C170

CIRC ACCESSION NO--AP0126510

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. A STUDY WAS MADE OF 258 CASE HISTORIES OF PATIENTS SUFFERING FROM DYSENTERY WITH BACTERIOLOGICALLY CONFIRMED DIAGNOSIS; CLINICO LABORATORY INDICES OF THE DISEASE WERE COMPARED IN 1957 (122 PATIENTS) AND IN 1967 (136 PATIENTS). A PREVALENCE OF SONNE DYSENTERY IN 1967 WAS NOTED (80PERCENT); IT DIFFERED FROM FLEXNER DYSENTERY BY A Milder COURSE, AN INCREASE IN THE NUMBER OF ATYPICAL, LATENT FORMS AND OF FORME FRUSTE, AND ALSO BY A LESSER INCIDENCE OF THE CHANGE TO CHRONIC FORM. IT APPEARED THAT 59.5PERCENT OF ALL THE SONNE STRAINS WERE RESISTANT TO CHLORAMPHENICOL, BIOHYCIN AND STREPTOMYCIN. FACILITY: KUBANSKIY MEDITSINSKIY INSTITUT IM. KRASNYY ARMIY I GURODSKAYA BOL'NITSA NR 2, KRASNODAR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SOLUBILITY OF CARBON DIOXIDE IN ORGANIC SOLVENTS -U-

AUTHOR--(05)-PODVIGAILOVA, I.G., ZEYNALOV, B.K., KRUGLIKOV, A.A.,
RADZHABOV, D.T., SHAGIDANOV, E.N. P
COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 338-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CARBON DIOXIDE, PETROLEUM HYDROCRACKING, PHOSPHATE, ORGANIC
SOLVENT, SOLUBILITY, PETROLEUM RESIDUE, XYLENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0340

STEP NO--UR/0064/70/046/005/0338/0339

CIRC ACCESSION NO--A90137444

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137444

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. USED TO DET. THE SOLV. (IN VOLS.--VOL.) OF CO SUB2 IN LIQS. OR SOLNS. IS DESCRIBED. THE SOLV. IN 58 LIQS. TESTED RANGED FROM 126 FOR ET SUB2 NH TO 0.4 TRIXYLYLENE PHOSPHATE. THE FOLLOWING SUBSTANCES MAY FIND USE IN THE REMOVAL OF ACIDIC GASES FROM AIR OR INDUSTRIAL GASES: ET SUB2 NH, POLYETHYLENE POLYAMINE (2PERCENT SOLN. ABSORBS 7.6 VOLS. CO SUB2--VOL), AND PLASTIZAN 30A (ETHYLENE GLYCOL C SUB7-9 FATTY ACID ESTERS) (1 VOL. ABSORBS 2.7 VOLS. CO SUB2), WHICH IS PRODUCED FROM INEXPENSIVE AND AVAILABLE PETROLEUM CRACKING RESIDUES.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SOLDER FOR SOLDERING ELECTRONIC EQUIPMENT -U-
AUTHOR--(U5)-TUTORSKAYA, N.N., KROGLEVA, S.P., YUSHKINA, YE.T., PODVIGINA,
O.P., CHERNOV, O.V.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,134
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70
SUBJECT AREAS--MATERIALS, ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--CHEMICAL PATENT, ELECTRONIC EQUIPMENT, SOLDER, CHEMICAL
COMPOSITION, COPPER, NICKEL, GERMANIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--300671829 STEP NO--0070462770700070007000070000
CIRC ACCESSION NO--AA0132094
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

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CIRC ACCESSION NO--AA0132094

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE TITLE SOLDIER, BASED ON CO,

ALSO CONTAINS GE 1-5 AND NI 1-3PERCENT.

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1/2 011

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--ACTION OF CHLORINE ON O AND M,CARBORANYLMAGNESIUM HALIDES -U-

AUTHOR--(03)-ZAKHARKIN, L.I., ZHIGAREVA, G.G., PODVISOTSKAYA, L.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 461-3

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CARBORANE, CHLORINE, ORGANOMAGNESIUM COMPOUND, BROMIDE,
IODIDE, ETHANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0842

STEP NO--UR/0062/70/000/002/0461/0463

CIRC ACCESSION NO--AP0119746

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT7C

2/2 011
CIRC ACCESSION NO--AP0119746
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. TREATING O OR M, CARBORANES WITH
ETMGCL, ETMGVR, OR ETMGI IN THE GAVE C SUB2 H SUB6 AND AFTER REMOVAL OF
MUCH OF THE SOLVENT AND REPLACEMENT OF IT BY C SUB6 H SUB6, THE MIXT.,
COOLED TO 5-10DEGREES, WAS TREATED WITH DRY CL TO YIELD MAINLY C, BROMO
OR C, IODOCARBORANES. THUS, CHLORINATION OF O, CARBORANYLMAGNESIUM
BROMIDE GAVE 6PERCENT 1, CHLORO, O, CARBORANE AND 94PERCENT
1, BROMO, O, CARBORANE, WHILE 1, METHYL, 2, BROMOMAGNESIUM, O, CARBORANE GAVE
5PERCENT 1, METHYL, 2, CHLORO, O, CARBORANE AND 95PERCENT
1, METHYL, 2, BROMO, O, CARBORANE; O, CARBORANYL MAGNESIUM IODIDE GAVE
5PERCENT 1, CHLORO, O, CARBORANE; O, CARBORANYL MAGNESIUM IODIDE GAVE
1, METHYL, 2, IODOMAGNESIUM, O, CARBORANE AND 95PERCENT 1, IODO, O, CARBORANE, WHILE
1, METHYL, 2, CHLORO, O, CARBORANE GAVE 6PERCENT
1, METHYL, 2, IODO, O, CARBORANE.
FOR PREPN. OF THE C, CHLORO DERIVS. IT IS NECESSARY TO USE RMGCL FOR
THE REACTIONS. THE RESULTS WERE THE SAME FOR RM, CARBORANE ANALOGS.
FACILITY: INST. LEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.372.5

PELLIPEYKO, V. A., PLOKS, V. O., ZHOLYAKOV, V. A., PODVIN, N. S., Institute of Electronics and Computer Technology of the Academy of Sciences of the Latvian SSR

"A Device for Checking Microelectronic Logic Circuits"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Urucheniya, Sovetskoye Soediniye, No 20, 1970, Author's Certificate No 273342, filed 27 Jan 69, p 43

Abstract: This author's certificate introduces a device for checking microelectronic logic circuits. The device contains a control module, input, output and memory registers, a programmed power supply, amplitude selector, digital comparison circuit, input signal shaper, actuating unit, indicator unit, digital printer and input and output devices. As a distinguishing feature of the patent, monitoring precision and effectiveness are improved by adding a time selector whose inputs are connected to the outputs of the circuit to be checked, while the time selector outputs are connected to the inputs of the amplitude selector. Also incorporated in the checker is a controlled delay line whose input is connected to the shaping input of the actuating unit, while the output is connected to the controlling input of the time selector, and the controlling input is connected to the control module.

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USSR

UDC 621.771.016

POLUKHIN, V. P., POLUKHIN, P. I., KHELOPONIN, V. M., and PODYMOV, V. F.

"An Analysis of Conditions during Cold Rolling of Low-Carbon Steel"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No 64, 1970, pp 29-33

Translation: Using a mathematical model of the sheet rolling process on a Minsk-22 computer, investigations were carried out of the power parameters of cold rolling low-carbon 08kp steel. A nomogram was obtained which describes the effective area of rolling under the given conditions. The substantial influence of elastic compression of the rolls on the rigidity of the rolling stand is demonstrated. Results from the study are compared with results which describe cold rolling of stainless steel. Two illustrations and five bibliographic entries.

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PODYMОВ, V. K.

PODYMОВ, V. K. and others. MORPHOLOGY OF THE ADRENAL CORTEX AFTER EXPOSURE TO TRANSVERSE ACCELERATIONS
AS UP TO THREE TIMES HIGHER

Article by V. K. Podymov and others. *Kosmicheskaya Biologiya i Meditsina*, Moscow, Vol 6, No 1, pp 1-10, 1972, submitted for publication 29 March 1971

Abstract: Morphological manifestations of adrenal cortex responses were studied in white rats (36 experimental and 26 control animals) exposed for 24 hours to transverse accelerations of 4 g. Variations in the content of lipids, ascorbic acid, RNA, and acidic phosphatase activity were demonstrated in relation to the duration of the exposure.

Due to the need for predicting body reactions during prolonged space flights there is an increasing interest in study of long-operating accelerations of low intensities as one of the models of modified gravitational conditions for investigation under ground conditions. Such investigations make it possible to clarify the possibilities for long-term existence of the body under modified gravitational conditions, understand the influence of the latter on the course of the principal biological processes, and study the mechanisms of adaptation reactions (Nathooz; Under, et al.; Smith and Felty; Vrablenski; A. A. Gyrushin, et al.; Oyama and Platt; Burton and Smith).

In the example of study of prolonged exposure to low accelerations, attempts are being made to establish criteria of adaptation to gravitational stress and physiological tests are being developed on the basis of which it would be possible to predict body reactions to gravitational effects (Burton and Smith; L. A. Klayev-Smyk, et al.). However, all the mentioned studies reflect the results of biological, physiological and biochemical investigations. The morphological research method has still not taken its proper place in evaluating the effect exerted on the body by prolonged exposure to accelerations of low intensities. Only a few communications have been published on this subject (K. F. Levitskaya).

1/2 035 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FLUORESCENCE MICROSCOPIC METHOD FOR DEMONSTRATING NEUROSECRETORY
SUBSTANCES WITH THE AID OF ACRIDINE ORANGE -U-
AUTHOR--PODYMOV, V.K.
COUNTRY OF INFO--USSR
SOURCE--ARKH ANAT GISTOL EMBRIOL 58(2): 92-93. 1970
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MICROSCOPY, FLUORESCENCE, BIOLOGIC STAIN, NERVOUS SYSTEM,
SECRETION, CYSTINE, HORMONE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0384 STEP NO--UR/9076/70/0597/002/0092/0093
CIRC ACCESSION NO--AP0157613
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 035

CIRC ACCESSION NO--AP0132613

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD IS BASED ON THE
CAPACITY OF CYSTINE, A CONSTITUTENT OF HYPOTHALAMIC HORMONES, TO
COMBINE, AFTER OXIDATION, WITH ACRIDINE ORANGE, TO PRODUCE RED DIMERIC
FLUORESCENCE. THE METHOD IS SIMPLE, CHEMICALLY SOUND AND MAKES USE OF
EASILY AVAILABLE AND UNEXPENSIVE REAGENTS. FACILITY: INST. MED.
BIOL. PROBL., MIN. HEALTH USSR, MOSCOW, USSR.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CHARACTERISTICS OF VARIOUS FORMS OF BENIGN HYPERBILIRUBINEMIA
CLINICAL, HISTOLOGICAL AND ELECTRON MICROSCOPIC STUDY -U-
AUTHOR-(03)-PODYMOVA, S.D., ZOLOTAREVSKIY, V.B., ROMANOV, V.S.

COUNTRY OF INFO--USSR

SOURCE--SOV MED 33(1): 26-31 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER, BIOPSY, BILIRUBIN, BIOLOGIC PIGMENT, HISTOCHEMISTRY,
ENZYME ACTIVITY, ELECTRON MICROSCOPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1998/0174

STEP NO--UR/0399/70/013/001/0026/0031

CIRC ACCESSION NO--AP0120874

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 026
CIRC ACCESSION NO--AP0120874

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SALIENT CLINICAL AND MORPHOLOGICAL FEATURES OF THE LIVER PUNCTURES IN 42 PATIENTS WITH BENIGN HYPERBILIRUBINEMIA, INCLUDING 24 WITH THE GILBERT MEULENGRACHT VARIETY, 13 WITH POSTHEPATIC, 2 WITH DUBIN JOHNSON AND 3 WITH ROTOR FORMS, ARE PRESENTED. IN ALL 3 GROUPS OF HYPERBILIRUBINEMIA THE PIGMENT WAS FOUND TO DEMONSTRATE SIMILAR HISTOCHEMICAL PROPERTIES CHARACTERISTICS OF CHROMOLIPOID LIPOFUSCINS-PHOSPHOLIPIDS; THE PIGMENT DISPLAYED BRIGHT BROWNISH RED PRIMARY LUMINESCENCE. THE ACTIVITY OF OXIDATIVE ENZYMES IN THE CENTER OF LUBULES, WHERE DEPOSITION OF THE PIGMENT WAS AT ITS HIGHEST, DIMINISHED. REPEATED BIOPSIES HELPED TRACE THE FORMATION OF THE PIGMENT FROM FATTY DROPS. DILATATION AND PROLIFERATION OF BILIARY CAPILLARIES, BROUGHT IN EVIDENCE THROUGH ELECTRON MICROSCOPY, MAY BE OF IMPORTANCE FOR THE UNDERSTANDING OF THE MORPHOLOGICAL BASIS UNDERLYING THE DISRUPTION OF THE BILIFICATION MECHANISMS. FACILITY: I. M. SECHENOV 1ST MOSCOW MED. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

KUDASHKIN, V. V., KUDASHKIN, V. M., and KUDASHKIN, I. M., Kuznetsk Metallurgical Combine

"Effect of Various Decoxidation Methods on the Quality of Steel and Expenditure of Decoxidizers"

Moscow, Metallurg, No 1, Sep 70, pp 19-21

Abstract: The Kuznetsk Metallurgical Combine has been using various methods of deoxidizing steel. Most steels have been deoxidized in the furnace and up to 1965, the decoxidizers were either ferromanganese alone or ferromanganese with 10-18% ferrosilicon or Silm 17 silicomanganese. This paper attempts to describe a more economic method which has recently been introduced to the combine. Slagging begins after 15-20 minutes and is terminated 10-20 minutes prior to deoxidation. In the process attempts are made to remove most of the slag. This makes it possible to reduce the loss of manganese and chromium to 1-2%, depending on the steel grade, and silicon up to 20%. Ferro-silicon-ferromanganese is substituted for the 10-20%, reducing the expenditure on the silicon alloy to one-fifth or one-sixth, decoxidation time by 10-15 minutes and the total decoxidation cost of steel by 20-40 kopecks. Steel has also been deoxidized in

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USSR

KUDASHKIN, V. V., et al, Metallurg, No 9, Sep 70, pp 19-21.

the furnace with the use of 1.5-ferrasilicon, and in the ladle with the addition of comanganese. The addition of the latter in the ladle reduced the amount of manganese from 22 to 9%, decreased decarboxation time by 6 minutes, and cut the expenditure of ferroalloys from 14.7 to 13.2 kg/ton of steel. The study of the mechanical properties of the rolled product from both experimental and ordinary melts failed to show any significant differences between them. In both cases the mechanical characteristics exceeded GOST requirements. As for the contamination of the steel with nonmetallic inclusions, the amount of the latter was the same in both steels.

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USSR

UDC 621.375.127.3(088.8)

BELOV, V. M., KLITORIN, I. F., PODZIN, A. YE. BUKOVTSSEV, V. A.

"Two-Stage Emitter Repeater"

USSR Author's Certificate No 301816, filed 20 Oct 1969, published 8 Jun 1971
(from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D245P)

Translation: A two-stage emitter repeater made of transistors of different types of conductivity with a current-stabilizing transistor in the emitter circuit of the transistor of each cascade is proposed. The proposed repeater is distinguished by the fact that in order to decrease the input capacitance and increase the input impedance the collector of the transistor of the first cascade is connected to the collector of the current-stabilizing transistor of the second cascade connected through the parallel-connected resistor and capacitor (or stabilatron) to the emitter of the transistor of the second cascade.

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USSR

UDC 546.776'21'131:04+546.786'21'131.04

FODZOLKO, Yu. G., KUZNETSOVA, A. A., YANKINA, L. F., and BUSLAYEV, Yu. A.,
Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy
of Sciences USSR

"Interaction of the Oxochlorides of Molybdenum (VI) and Tungsten (VI) with
Methylphosphonic Acid"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 18, No 5, May 73, pp 1255-1259

Abstract: By the interaction of MoO_2Cl_2 and WO_2Cl_2 with methylphosphonic acid $\text{MeP}(\text{O})(\text{OH})_2$, compounds with the composition $\text{MO}_2\text{ClOP}(\text{O})(\text{Me})\text{OH}$ (I), $\text{MO}_2/\text{OP}(\text{O})(\text{Me})\text{OH}/_2$ (II), and $\text{MO}_2\text{O}_2\text{P}(\text{O})(\text{Me})$ (III) were prepared, where $\text{M} = \text{Mo}, \text{W}$. Pyrolysis of the acidic salts II at 200° led to the pyrosalts $\text{MO}_2/\text{OP}(\text{O})(\text{Me})/_2\text{O}$ (IV). IR spectroscopy indicated that II and III were polymers with MOMOM linkages, similarly to the initial oxochlorides, while IV contained isolated MO groups and also POP groups that were absent in II and III. III and IV apparently contained phosphonate links. Structural formulas for II, III, and IV are proposed (figure).

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1/3 027 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--TUNGSTEN ANALOG OF PHOSPHONITRILE CHLORIDE AND SOME OF ITS
PROPERTIES -U-
AUTHOR-(04)-KUZNETSOVA, A.A., BUSLAYEV, YU.A., GORVACHOVA, L.F., PODZOLKO,
YU.G. *P*
COUNTRY OF INFO--USSR
SOURCE--IZ. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 463-5
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--TUNGSTEN, CHLORIDE, IR SPECTRUM, PHOSPHONITRILE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1500 STEP NO--UR/0062/70/000/002/0463/0465
CIRC ACCESSION NO--AP0120284

UNCLASSIFIED

2/3 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120284

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A 1:3 MIXT. OF WCL SUB5 AND NH SUB4 CL IN A QUARTZ TUBE CONNECTED TO AN ABSORBER WITH METHYL RED SOLN. FOR DETECTION OF HCL AND KI SOLN. FOR DETECTION OF ANY CL, WAS COVERED WITH EXCESS NH SUB4 CL AND THE MIXT. UNDER AR ATM. WAS SLOWLY HEATED TO 190DEGREES, WHEN HCL FORMATION BEGAN. WHEN THE MIXT. BECAME DARK BROWN, IT WAS HEATED TO 250DEGREES TO EXPEL NH SUB4 CL, LEAVING BEHIND WNCL SUB2, BROWN SOLID, INSOL. IN ALL ORG. SOLVENTS. IT GAVE AN IR BAND AT 500-1000 CM PRIME NEGATIVE1 CAUSED BY W-N VIBRATIONS IN A NWNW CHAIN. HEATED IN AIR IT DECOMPO. AT 340DEGREES WITH SUBSEQUENT OXIDN. TO WO SUB3. PYROLYSIS IN AR ATM. BEGAN AT 450DEGREES. THE THERMAL STABILITY OF WNCL SUB2 WAS SIMILAR TO ITS NB ANALOG. TREATED WITH H SUB2 O THE SUBSTANCE IN POWD. FORM HYDROLYZED EVEN AT ROOM TEMP. AT W-CL BONDS AND GAVE WN(OH) SUB2.2H SUB2 O. NO NOTICEABLE REACTION WITH ETCH TOOK PLACE AT ROOM TEMP. BUT ON HEATING A GREY BLUE COLOR DEVELOPED AS A RESULT OF FORMATION OF WN(OE) SUB2. LIQ. NH SUB3 USED IN CONTINUOUS EXTN. OF WNCL SUB2 FOR 1 HR GAVE WN(NH SUB2) CL.NH SUB3, BROWN SOLID, INSOL. IN USUAL SOLVENTS, AND WITH IR SPECTRUM CONTG. BANDS AT 1289 CM PRIME NEGATIVE1 AND 1600 CM PRIME NEGATIVE1 FROM DEFORMATION OF COMPLEXED HN SUB3, AS WELL AS 500-1000 CM PRIME NEGATIVE1 BAND OF THE W-N BOND VIBRATIONS. WNCL SUB2 AND ET SUB2 NH IN CHCL SUB3 REACTED READILY AND GAVE WNINET SUB2) CL, ALSO INSOL. AND WITH A WIDE BAND IN 500-1000 CM PRIME NEGATIVE1 REGION IN ITS IR SPECTRUM.

LIMIT ACCESSION

3/3 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120284

ABSTRACT/EXTRACT--WN-(NH SUB2) CL. NH SUB3 AND WN(NET SUB2) CL WERE RATHER STABLE IN TERMS OF HYDROLYSIS IN CONTACT WITH AIR BUT IN H SUB2 O THEY HYDROLYZED RAPIDLY TO WN(OH) SUB2.4 SUB2 O; ETOH SIMILARLY GAVE WN(OET) SUB2. FACILITY: INST. OBSCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 546.78 + 546.131

KUZNETSOVA, A. A., BUSLAYEV, YU. A., GORYACHOVA, L. F., and PODZOLKO, YU. G., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR

"Tungsten Analog of Phosphonitrile Chloride and Some of Its Properties"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 463-465

Abstract: The authors undertook to synthesize the tungsten analog of phosphonitrile chloride and to study reactions of this compound with diethylamine, liquid ammonia, water and ethanol. The procedure used for the synthesis of tungsten nitrile chloride was similar to that used previously for the preparation of NbNCl_2 and TaNCl_2 . The resultant tungsten analog was of the composition WNCl_2 . The IR spectrum of WNCl_2 reveals a wide absorption band in the $1000\text{-}500\text{ cm}^{-1}$ region, indicating the presence of "endless" chains -WNWN- in the compound. A

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USSR

KUZNETSOVA, A. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 463-465

study of the pyrolysis of WCl_2 showed that the compound is stable to 340° in air and to 450° in an argon atmosphere. A study of reactions of WCl_2 with liquid ammonia, diethylamine, ethanol and water showed that, like phosphonitrile chloride, the compound readily undergoes solvolysis with displacement of the chlorine atom by various groups. There are no changes in the tungsten-nitrogen bridge bonds.

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USSR

UDC 669.721.4

TAYTS, A. Yu., PODZOROV, B. N., KHABAROVA, N. P.

"State and Prospects for Development of Techniques of Refining and Casting of Magnesium and its Alloys"

Tr. Vses. N-i. i Proyekt. In-ta. Alyumin., Magn. i Elektrod. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 56-62. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 6200 by the authors).

Translation: The problem of development and introduction of a technology for refining primary Mg in new, highly productive continuous apparatus is studied. The experience of the industrial operation of continuous Mg refining furnaces has shown their technical and economic effectiveness. A plan has been developed for a highly productive crucibleless furnace for the production of Mg alloys. Continuous furnaces and highly productive crucibleless apparatus for the production of alloys may be one of the main links in a continuous line for production of commercial Mg. At the present time, a plan has been developed for mechanized continuous line processing of ingots. The introduction of this line to production will solve the problem of complete mechanization and automation of the production of refined Mg and its alloys. 1 table, 5 biblio refs.

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1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--RESTRICTIONS ON THE GROWTH OF THE MASS SHELL ELASTIC SCATTERING
AMPLITUDE FOLLOWING FROM THE SHORT RANGE CHARACTER OF THE INTERACTION
AUTHOR--POFA, M.Z.
COUNTRY OF INFO--USSR
SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 2, PP
197-211
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ELASTIC SCATTERING, SCATTERING AMPLITUDE, FIELD THEORY, S
MATRIX, PARTICLE INTERACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/1121 STEP NO--UR/0646770/003/002/0197/0211
CIRC ACCESSION NO--AP0130154

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130154

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESTRICTIONS OF GREENBERG LOW TYPE AND THE ANALYTICITY IN THE SQUARED MOMENTUM TRANSFER IN A CERTAIN ELLIPSIS ARE PROVED FOR THE ELASTIC SCATTERING AMPLITUDE $F(s, \cos \theta)$ IN THE LARGE CLASS OF FIELD THEORIES (INCLUDING NONLOCALIZABLE ONES (10)). IT APPEARS THAT THE SAME CONDITIONS WHICH ARE SUFFICIENT TO PROVE THE EXISTENCE OF THE S MATRIX ACCORDING TO HAAG RUELE, ARE ALSO SUFFICIENT TO PROVE THE RESTRICTIONS ON THE PARTIAL WAVE AMPLITUDES. THE PROOF IS BASED ESSENTIALLY ON THE CLUSTER PROPERTIES OF VACUUM EXPECTATIONS, WHICH REFLECT THE SHORT RANGE CHARACTER OF INTERACTION FORCES BETWEEN THE PARTICLES. FACILITY: FIZICHE\$KIY INSTITUT IN. P. N. LEBEDEVA AKADEMII NAUK SSSR.

172 046 UNCLASSIFIED PROCESSING DATE--D4DEC70
TITLE--MANIFESTATION AND CALCULATION OF THE NONANALYTICAL NATURE OF THE
CRITICAL FREQUENCIES OF DIPOLE VIBRATIONS -U-
AUTHOR-(03)-BELOUSOV, M.V., POGAREV, D.E., SHULTIN, A.A.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(4), 991-4
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--DIPOLE INTERACTION, ELECTRIC DIPOLE MOMENT, VIBRATION
ANALYSIS, VIBRATION EFFECT, VIBRATION MEASUREMENT, ANISOTROPIC MEDIUM,
CRYSTAL ANISOTROPY, RAMAN SPECTRUM, IR SPECTRUM, CALCIUM COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1305 STEP NO--UR/0181/70/012/004/0991/0994
CIRC ACCESSION NO--AP0124956
UNCLASSIFIED

2/2 046

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0124956

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPRESSIONS WERE OBTAINED FOR THE FREQUENCY AND INTENSITY OF "ISOLATED" BAND OF DIPOLE VIBRATION IN AN ANISOTROPIC CRYSTAL AS THE FUNCTION OF DIRECTION OF THE WAVE VECTOR. QUANT. EXPTL. INVESTIGATION WAS CARRIED OUT OF NONNAL. CHARACTER OF THE LIMITING FREQUENCIES BY USING IR REFLECTION AND TRANSMISSION SPECTRA OF CALCITE CRYSTALS. IN THE TRANSMISSION SPECTRUM, A BAND IS OBSO. ON THE LONGITUDINAL FREQUENCY. A NECESSITY IS NOTED OF THE ACCOUNT OF NONNAL. CHARACTER IN THE INTERPRETATION OF IR SPECTRA AND THE RAMAN SPECTRA OF ANISOTROPIC CRYSTALS. FACILITY: LENINGRAD. GOS. UNIV. IN. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ULTRASONIC EQUIPMENT FOR AUTOMATING PRODUCTION PROCESSES -U-
AUTHOR-(04)-VIGDERMAN, V.SH., ZAYTSEV, V.B., PUGER, M.A., SHKLYAREVICH,
G.M.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, MEKHAIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA, NO 2, 1970,
PP 13-16
DATE PUBLISHED-----7J

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, MECH., IND., CIVIL AND
MARINE ENGR
TOPIC TAGS--EMULSION, FOOD TECHNOLOGY, FOOD PROCESSING EQUIPMENT,
ULTRASONIC EFFECT/(U)AGBI MACHINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/1300

STEP NO--UR/0118/70/000/002/0013/0016

CIRC ACCESSION NO--AP0121804

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30DCT70

CIRC ACCESSION NU--AP0121804

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A DESCRIPTION OF A MACHINE, THE AGB-1, USING ULTRASONICS FOR OBTAINING STABLE, HIGHLY DISPERSED WATERFAT EMULSIONS IN THE FOOD PRODUCE INDUSTRY IS GIVEN. THE MACHINE IS NOW IN ASSEMBLY LINE PRODUCTION. IT OPERATES ON THE PRINCIPLE OF THE PASSAGE UNDER PRESSURE OF THE MIXTURE THROUGH AN ACOUSTIC, MULTI ROD HYDRODYNAMIC CONVERTER. AS A RESULT OF THE TURBULENCE INDUCED BY THE ACOUSTIC OSCILLATIONS AND THE HYDRODYNAMIC SHOCKS, THE STABLE AND FINELY DISPERSED. THE FIRST SHOWING THE VARIOUS COMPONENTS AND THEIR INTERCONNECTION; THE SECOND, A SCHEMATIC OF THE ELECTRICAL CONNECTIONS; AND A THIRD, A LINE DRAWING OF THE EXTERNAL VIEW OF THE MACHINE FOR PREPARING THE EMULSION. THE LATTER HAS BEEN USED FOR SEVERAL YEARS IN CONFECTIONER PLANTS IN VARIOUS CITIES. ANOTHER DEVICE USING THE ULTRASONIC PRINCIPLE IS DISCUSSED IN THIS ARTICLE. THIS IS THE AKSH MACHINE FOR CLEANING JARS AND GLASSES. A THIRD MACHINE, FOR CLEANING FILTERS, IS KNOWN AS THE AMSH. THIS ULTRASONIC EQUIPMENT IS ALSO DESCRIBED IN THE TEXT AND IS SHOWN IN DIAGRAMMATIC FORM. ALL THESE DEVICES ARE MANUFACTURED BY THE VNIKIPRODMASH, OF WHICH THE AUTHORS ARE EVIDENTLY MEMBERS. THIS ORGANIZATION HAS BEEN COLLABORATING WITH THE ACOUSTICAL INSTITUTE OF THE USSR ACADEMY OF SCIENCES IN THE DESIGN AND MANUFACTURE OF ULTRASONIC EQUIPMENT FOR WELDING POLYMER STRIPS USED IN FOOD PACKING. OTHER MACHINES IN THE PROCESS OF DEVELOPMENT ARE ULTRASONIC WELDING MACHINES FOR VACUUM PACKING FISH PRODUCTS AND DRIED MILK, AS WELL AS OTHER FOOD MATERIALS.

UNCLASSIFIED

P
USSR

UDC 621.7.022.6

VIGDERMAN, V. SH., ZAYTSEV, V. B., POGER, M. A. and SHKLYAREVICH, G. M.

"Ultrasonic Equipment for Automating Production Processes"

Moscow, Mekhanizatsiya i Avtomatizatsiya Proizvodstva, No2, 1970, pp 13-16

Abstract: A description of a machine, the AGB-1, using ultrasonics for obtaining stable, highly dispersed waterfat emulsions in the food produce industry is given. The machine is now in assembly-line production. It operates on the principle of the passage under pressure of the mixture through an acoustic, multi-rod hydrodynamic converter. As a result of the turbulence induced by the acoustic oscillations and the hydrodynamic shocks, the stable and finely dispersed: the first showing the various components and their interconnection; the second, a schematic of the electrical connections; and a third, a line drawing of the external view of the machine for preparing the emulsion. The latter has been used for several years in confectioner plants in various cities. Another device using the ultrasonic principle is discussed in this article. This is the AKSh machine for cleaning jars
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USSR

VIGDERMAN, V. SH., et al., Moscow, Mekhanizatsiya i Avtomatizatsiya
Proizvodstva, No 2, 1970, pp 13-16

and glasses. A third machine, for cleaning filters, is known as the
AMSh. This ultrasonic equipment is also described in the text and
is shown in diagrammatic form. All these devices are manufactured by
the VNIKIProdmas, of which the authors are evidently members. This
organization has been collaborating with the Acoustical Institute
of the USSR Academy of Sciences in the design and manufacture of ultra-
sonic equipment for welding polymer strips used in food packing.
Other machines in the process of development are ultrasonic welding
machines for vacuum-packing fish products and dried milk, as well
as other food materials.

2/2

USSR

UDC 576.311.1

GARYEYEV, P. P., KHARCHUK, O. A., and POGLAZOV, B. F., Laboratory of Bio-organic Chemistry, Moscow State University imeni M. V. Lomonosov, Moscow

"Study of Denaturation of Some Structural Virus Proteins by the Method of Optical Rotatory Dispersion"

Moscow, Biokhimiya, Vol 37, No 6, Nov-Dec 72, pp 1210-1214

Abstract: Aqueous solutions of tobacco mosaic virus protein had an optical activity spectrum in the 230-350 m μ range typical for proteins in organic solvents. The protein denatured to the maximum extent with alkali had an optical activity spectrum characteristic for proteins in aqueous solutions. Solutions corresponding to intermediate stages of denaturation showed a step-wise transition from a virtual organic solvent solution state to an aqueous solution state. The spectra, which were determined on a spectropolarimeter, reflected the relative content of the α -helix on the surface of the protein. In the undenatured globular protein, the α -helix sections were hidden within the globules - i.e., they were in a medium resembling an organic solvent. As denaturation proceeded, the globules unfolded and the contacts of the α -helix parts with H₂O increased.

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- 69 -

Higher Algebra & Geometry and Topology

USSR

UDC 513.731

POCORELOV, A. V., Corresponding Member of the Academy of Sciences USSR,
Physicotechnical Low-Temperature Institute, Academy of Sciences Ukrainian
SSR, Khar'kov

"On Minimal Hypersurfaces in a Spherical Space"

Moscow, Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 291-292

Abstract: The article considers minimal compact hypersurfaces in a spherical space. By n -dimensional spherical space S_n is understood an n -dimensional sphere in $(n+1)$ -dimensional Euclidean space. The intersection of S_n by Euclidean planes passing through the center of the sphere is said to be planes of S_n . A one-dimensional plane is said to be a straight line, an $(n-1)$ -dimensional plane a hyperplane. A hypersurface in S_n is said to be minimal if its area is stationary: i.e.,

$$\delta \int ds = 0.$$

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USSR

POCORELOV, A. V., Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 291-292

In order for a hypersurface to be minimal in the sense of this definition, it is necessary and sufficient that its mean curvature be equal to zero.

The following theorems are proved:

Theorem 1: Let F be a compact minimal hypersurface in spherical space S_n and P a point which does not lie in any of the tangent hyperplanes of F . Then F is a hyperplane.

Theorem 2: Let F be a simply-connected compact minimal hyperplane in spherical space S_n and g a straight line in S_n which does not lie in any of the tangent hyperplanes of F . Then F is a hyperplane.

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- 6 -

USSR

UDC: 513.3.731

POGORELOV, A. V., Corresponding Member of the Academy of Sciences,
USSR

"Complete Solution of the Fourth Hilbert Problem"

Moscow, Doklady Akademii Nauk SSSR, 1 January 1973, pp 48-51

Abstract: The fourth Hilbert problem is defined here as the determination of all metrizations of a projective space for which straight lines are geodesic. This paper offers a solution to the problem with no additional assumptions; it begins in the following way: Let P be the projective space, X be an arbitrary set of points in the space, and πX be a set of planes in the space intersecting X ; let σ be any nonnegative, completely additive function specified for a set of planes in P and satisfying the following conditions: $\sigma(\pi X) = 0$ if X consists of one point; $\sigma(\pi X) > 0$ if X contains a continuum. Three theorems are stated and proved.

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USSR

UDC 620.171.2

SKIYAROV, N. M., KONONCHUK, N. I., ZHUKOV, S. L., ZHUKOV, N. D., VASIL'EV, B. N., AKIMOV, L. M., LAPITSKIY, Yu. A., BELYAYEV, M. S., KRIVONOGOV, G. S., ISHCHENKO, I. I., POGREBNIYAK, A. D., and KUFAYEV, V. N. (Moscow, Kiev)

"Estimating the Heat Resistance of Heat-Resistant Alloys Under Actual Operating Conditions"

Kiev, Problemy prochnosti, No 1, 1971, pp 13-21

Abstract: Problems concerned with estimating the endurance of heat-resistant materials under unstable loading conditions are analyzed. A method is suggested for producing and using "secondary" endurance characteristics, increasing the accuracy of estimation and calculation of guaranteed durability under operating conditions and forced equivalent loading modes. These secondary characteristics represent the dependence of the durability of materials on combinations of preceding programmed and subsequent stationary loads in various proportions. The formula of linear addition of damage applies. The secondary characteristics are produced by accelerated testing over limited test periods with extrapolation to the area of increased durability.

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USSR

UDC: 614.1:313.13-013(428 23)

POLYAKOV, I. V., and POGGENFOL', S. S.

"Shifts in the Incidence of Diseases With Temporary Loss of Time From Work Among the Working Population of Leningrad"

Moscow, Zdravookhraneniye Rossiyskoy Federatsii, Vol 14, No 1, Jan 71, pp 11-13

Abstract: The total incidence of diseases resulting in loss of time from work by employees at industrial enterprises in Leningrad decreased from 1958 to 1968. However, instances of loss of time due to hypertension, diseases of the respiratory tract, and accidents on the way to and from work increased during the period in question. Among the 10 principal industry branches at Leningrad, the highest frequencies of disease were in the textile and light, metallurgical, chemical, wood-working, and paper industries and the lowest in automotive transport, communications, and building materials production. While in all other age groups the incidence of diseases resulting in temporary loss of time decreased during the period 1958-68, it increased in the group of persons 60 yrs old or older. The variations with age of the number of persons who did not lose any time due to disease decreased. The total percentage of instances of chronic disease forming the cause

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USSR

POLYAKOV, I. V., and POGGENPOL', S. S., Zdravookhraneniye Rossiyskoy Federatsii,
Vol 14, No 1, Jan 71, pp 11-13

of loss of time decreased, while the ratio of losses of time due to chronic disease increased for persons aged 40-59 yrs. Because of health examinations at medical dispensaries, the percentage of workers older than 40 yrs who were employed in the industry could be increased from 31.9% in 1958 to 41.8% in 1968.

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1/2 011
UNCLASSIFIED
TITLE--INFLUENCE OF PRIMARY ALCOHOLS ON THE REDUCTION OF WATER EVAPORATION
BY 1, OCTADECANOL AND BETA OCTADECYLOXYETHANOL MONOLAYERS -U-
AUTHOR--(02)--KRMGYAN, T.V., POGHOSYAN, R.K.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 377-380
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ALCOHOL, EVAPORATION, SOLVENT ACTION, WATER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PRUXY REEL/FRAHE--2000/1590
CIRC ACCESSION NO--AP0125212
STEP NO--UR/0069/70/032/003/0377/0380
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125212

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EVAPORATION RESISTANCE OF CONDENSED MONOLAYERS OF 1,OCTADECANOL, BETA OCTADECYLOXYETHANOL AND A SAMPLE OF COMMERCIAL OCTADECANOL HAS BEEN STUDIED AT 25DEGREESC USING PRIMARY ALCOHOLS AS SPREADING SOLVENTS. THE ALCOHOLS FROM METHANOL TO PENTANOL INCREASE THE EVAPORATION RESISTANCE OF MONOLAYERS BY 50PERCENT. THE BEHAVIOR OF 1,OCTADECANOL IS, HOWEVER, ENTIRELY DIFFERENT WHEN 1,DECANOL AND 1,DODECANOL ARE USED AS SPREADING SOLVENTS. THE LAST TWO SOLVENTS MENTIONED COVER THE WATER SURFACE AND COMPLETELY HINDER THE FORMATION OF A MIXED MONOLAYER WITH 1,OCTADECANOL, WHICH HAS A VERY LOW RATE OF SPREADING. FIELD TESTS ARE DESCRIBED, WHICH CONFIRM THE FAVORABLE INFLUENCE OF LOW MOLECULAR WEIGHT PRIMARY ALCOHOLS.
FACILITY: INSTITUT ORGANICHESKOY KHIMII, EREVAN.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--MOLECULAR ORGANIZATION OF THE TAIL CORE OF T2 BACTERIOPHAGE -U-
AUTHOR--(03)-KOSOUROV, G.I., POGLAZOV, B.F., NIKOLSKAYA, T.I.
COUNTRY OF INFO--USSR
SOURCE--BIOKHIMIYA 1970, 35(2), 419-21
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BACTERIOPHAGE, ELECTRON MICROSCOPY, ELECTRON DIFFRACTION
ANALYSIS, ELECTROPHORESIS, MOLECULAR STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/0443 STEP NO--UR/0218/70/035/002/0419/0021
CIRC ACCESSION NO--AP0134216

2/2 025

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134216

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRON MICROSCOPIC AND
DIFFRACTION STUDIES OF PHAGE T2 TAIL CORE SHOWED THAT THE ROD SHAPED
PARTICLES ARE 800 ANGSTROM LONG AND 70 ANGSTROM IN OUTER DIAM. AND
COMPOSED OF 6 SPIRALLY WOUND FIBERS. THE PITCH OF THE SPIRALS IS 135
ANGSTROM, AND THERE ARE 9 PROTEIN SUBUNITS PER TURN. THE SUBUNITS ARE
SPHERICAL AND HAVE A DIAM. OF 21 ANGSTROM. ELECTROPHORESIS SHOWED THAT
THERE WAS ONLY 1 TYPE OF PROTEIN. FACILITY: INST. CRYSTALLOGR.,
MOSCOW, USSR.

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DIFFUSION OF WATER VAPORS THROUGH POLYMER FILMS -U-
AUTHOR--(03)-SHIROKSHINA, Z.V., SUYKOVSKAYA, N.V., POGODAYEV, A.K.
COUNTRY OF INFO--USSR
SOURCE--LENINGRAD, OPTIKO MEKHANICHESKAYA PROMYSHLENNOST', NO 1, 1970, PP
48-52
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS
TOPIC TAGS--PLASTIC FILM, WATER VAPOR, FLUOROCARBON RESIN, WATERPROOFING

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1342 STEP NO--UR/0237/70/000/001/0048/0052
CIRC ACCESSION NO--AP0123300

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123300

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PERMEABILITY OF WATER VAPOR
THROUGH 2.5-20 MU THICK POLYMER FILMS IS DETERMINED. IT IS SHOWN THAT
32L TYPE FLUORORGANIC POLYMER FILMS ARE MOST HYDROPHOBIC AND LEAST
PERMEABLE FOR WATER VAPOR.

UNCLASSIFIED

USSR

UDC 669.721'71:536.7-669.054.2

LUKASHENKO, E. YE., and POGODAYEV, A.M.

"Thermodynamics of Liquid Mg-Al Alloys"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, pp 91-96

Abstract: The emf (933 and 1073°K) and "carrier gas" (1073°K) methods were used to investigate thermodynamic properties of melts of the Mg-Al system in the 10-90 mole % range. The electrochemical cell consists of four aluminum crucibles placed on a tantalum mounting, and a porcelain beaker; tungsten wire protected by alumina sleeves served as current leads. Mg-Al melts were prepared from Mg-1 magnesium and AVOOO aluminum. An anhydrous eutectic mixture of the chlorides of potassium and lithium with the addition of a potential-forming ion (2% $MgCl_2$) was the electrolyte. Activities of components were determined from the results of E and P_{Mg} measurements (P_{Mg} is the saturated vapor pressure of magnesium). The integral thermodynamic functions of these alloys were then calculated. Emf measurements throughout the concentration range investigated showed relatively slight monotonically negative deviations of Mg-Al melts from Raoult's law. The temperature coefficients of the thermodynamic activity of magnesium are small (dE/dT 7.5 10⁻⁵ mv/deg). Barometric measurements by the "carrier gas" method yielded monotonically-positive deviations

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USSR

LUKASHENKO, E. Ye., et al, Izvestiya Akademii Nauk SSSR, Metallurgy, No 5, Sep/
Oct 71, pp 91-96

of the Mg-Al system from the earlier state. Based on a comparative analysis
of the two experimental techniques used for the Mg-Al system and literature
data, it was concluded that the most reliable thermodynamic information on
Mg-Al melts is currently obtained by the emf method.

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USSR

UDC 669.71'721.048

LUKASHENKO, E. YE., KOPACH, I. I., and ~~POGODAYEV, A. K.~~

"Two-layer Process for the Vacuum Distillation of Alloys of Light Metals"

V. sb. Vakuumn, protsessy v tsvetn. metallurgii (Vacuum Processes in Non-ferrous Metallurgy -- Collection of Works), Alma-Ata, "Nauka," 1971, 136-141 pp (from Referativnyy Zhurnal -- Metallurgiya, No 6, Jun 71, Abstract No 6G169)

Translation Of Abstract: A new process was considered for the process of vacuum distillation of alloys of light metals by using a "hot" salt bath (two-layer process). As an example the purification of secondary metals and Al alloys are discussed for the characteristic two-layer process of vacuum distillation (14 bibliographic entries)

Extraction and Refining

USSR

UDC 669.71'721.018.9.4

LUKASHENKO, E. YE., POGODAYEV, A. M., KOPACH, I. I., KUZNETSOVA, V. P.

"Study of the Processes of Refining Aluminum and Magnesium Alloys by Vacuum Distillation"

Metalloved. spлавov legkikh met. -- V sb. (Physical Metallurgy of Alloys of Light Metals -- collection of works), Moscow, Nauka Press, 1970, pp 91-98 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G205)

Translation: The kinetics and mechanism of vacuum distillation of aluminum and magnesium alloys (synthetic and industrial) and electrolytic magnesium are studied. The effect of temperature, distillation time, composition, and height of the layer of distilled alloy, the residual pressure, the tap and vapor condensation conditions and kinetic factors on the mechanism, rate, and completeness of refining the alloys is investigated in a broad range of values. There are 4 illustrations, 4 tables, and a 20-entry bibliography.

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Extraction and Refining

USSR

UDC 669.716,721:621.745.55:66.067

LUKASHENKO, E. Ye., POGODAYEV, A. M., KOPACH, I. I., and KUZNETSOVA, V. P.

"Investigation of Refining Processes of Aluminum and Magnesium Alloys by Vacuum Distillation"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 91-98, resume

Translation: The kinetics and mechanism of vacuum distillation of aluminum and magnesium alloys (synthetic and industrial) and electrolytic magnesium are investigated. Analyzed are, in a broad interval of values, the effects of temperature, duration of distillation, composition and layer depth of the distilled alloy, residual pressure, conditions of elimination and condensation of vapor, and kinetic factors on the mechanism and the rate and completeness of refining alloys. Four figures, four tables, twenty bibliographic references.

USSR

Hydraulic and Pneumatic

POGODAYEV, F. G. ZAYONCHKOVSKIY, G. I.

UDC 629.78.062.2

"Application of Integral Criteria to Analyze the Quality of Transfer Processes in a System With a Hydraulic Amplifier"

Sb. nauch. tr. Kiev. in-^{ta} inzh. granhd. aviatsii (Collection of Scientific Works of Kiev Institute of Civil Aviation Engineers), 1970, No. 6, pp 16-22 (from RZh-Raketostroyeniye, No 9, Sep 71, Abstract 9.41.188)

Translation: Analytical relationships are obtained for determining in the linear formulation the combination of parameters of a hydraulic servosystem to produce the most favorable transfer process. Since the optimal combination of values of the parameters of the hydraulic servosystem corresponds to the minimum value of the integral square error or is close to this value, an integral of the type $\int_0^{\infty} \dot{r}^2 dt$ can serve as a criterion for selecting optimal parameters of a hydraulic amplifier of a control system (as a first approximation). The results obtained in considering the linear problem can be the basis for a further study of problems in the dynamics of hydraulic amplifier systems considering nonlinearities.

6 ill. Resume.

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BUT'KO, V. S., POGODAYEV, F. G.

UDC 532.5:621.22

"On the Dynamic Stability of Overload Valves Considering Inertial Forces of the Flow"

Gidroprivod i gidropnevmoavtomatika. Resp. mezhved. nauch.-tekhn. sb. (Hydraulic Drives and Hydropneumoautomation. Republic Interdepartmental Scientific-Technical Collection), 1971, No. 7, pp 112-118 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12B1000)

Translation: A fourth order differential equation is analyzed that approximately describes the process of the oscillations in pressure in valve devices considering non-steady-state hydrodynamic forces. A condition is obtained which if observed will make it possible not to take into account the inertia head, which considerably simplifies the mathematical analysis. To determine the effect of nonlinear terms, a modeling of transfer processes is carried out on an analog computer and an experimental study was conducted. Authors' abstract.

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Pharmacology and Toxicology

USSR

UDC 577.1.612.8.015

KOZLOVA, L. A., and POLODIN, K. I., Second Moscow Medical Institute imeni N. I. Pirogov, Moscow Scientific Research Institute of Psychiatry

"Aldolase and Lactate Dehydrogenase Activity and Lactic and Pyruvic Acid Content of Various Rat Brain Areas Under Corazole-induced Convulsions"

Kiev, Ukrayins'kyy Biokhimichnyy Zhurnal, Vol 42, No 6, 1970, pp 692-696

Abstract: The article describes results of a study of the activity of glycolytic enzymes (fructose-1,6-diphosphate aldolase, fructose-1-monophosphate aldolase, lactate dehydrogenase) and the lactic and pyruvic acid content of rat brain tissues under repeated corazole-induced convulsions. Male albino rats weighing 200-250 g were used for the experiments. The repeated convulsions were induced by the subcutaneous injection of a 10-percent corazole solution at 40-60 mg per kg of weight. The results indicate that repeated corazole-induced convulsions are accompanied by a significant increase in aldolase and lactate

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USSR

KOZLOVA, L. A., and POGODAYEV, K. I., Ukrayins'kyy Biokhimichnyy Zhurnal, Vol 42, No 6, 1970, pp 692-696

dehydrogenase activity and lactic and pyruvic acid build-up in brain tissue. These indices may characterize the rate of aerobic processes in the brain tissue. There is a rise in the lactate:pyruvate coefficient with repeated fits, after single and four convulsive states. The maximum shifts in the rate of glycolytic processes under repeated convulsions occur in the upper areas of the brain (cortex, interbrain).

2/2

Acc. Nr:

00047324

Ref. Code: UR 0300

PRIMARY SOURCE: Ukrayns'kiy Biokhimichnyi Zhurnal, 1970,
Vol 42, Nr 1, pp 60-65

ALDOLASE ACTIVITY, PYRUVATE AND LACTATE CONTENT
IN THE RAT BRAIN DIFFERENT DIVISIONS WITH OVERSTRAIN
OF THE CENTRAL NERVOUS SYSTEM

K. I. Pogodayev, L. A. Korlova, I. V. Chepinog

The N. I. Pirogov II Medical Institute, Moscow

Summary

It the rat brain tissues the activity of aldolase of fructose-1-monophosphate and aldolase of fructose-1,6-diphosphate increases under the effect of repeating one-four times electroconvulsive attacks. The fatigue, which comes after the animal run with the rotating drum, is characterized by the increase in the lactate and pyruvate content and the rise of the coefficient value of lactate: pyruvate. It is established that with fatigue the intensity decrease in the aerobic processes of oxidation is compensated to some extent by the intensification of anaerobic glycolytic processes.

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REEL/FRAME
19790845

24/ 2

USSR

UDC 621.373.826:53

POGODAYEV, V. A., HMELEVTSOV, S. S., and CHISTYAKOVA, L. K.

"Vaporization of Small Drops in an Optical Radiation Field"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.
(Tenth All-Union Conference on the Propagation of Radio Waves;
Report Theses--collection of works) "Nauka," 1972, pp 139-143 (from
RZh--Radiotekhnika, No 10, 1972, Abstract No 10D386)

Translation: The dynamics of the vaporization of water drops with
radii of about 20 microns in an aerosol atmosphere is investigated.
Two modes are considered: surface vaporization, and explosion. In
the explosion mode, the law for the scattering of the small drops
obtained through the explosion of the initial particle of aqueous
aerosol was studied. A. K.

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Acc. Nr:

AT0047550

Abstracting Service:
GEOPHYSICAL ABST.

5/70

Ref. Code:

UR0139

P

91715n Evaporation of a water drop under the influence of infrared radiation. Bukatyi, V. I.; Pogodaev, V. A. (Sib. Fiz.-Tekh. Inst. im. Kuznetsova, Tomsk, USSR). Izv. Vysht. Ucheb. Zaved., Fiz. 1976, 13(1), 141-2 (Russ). An expt. was performed to check a previously derived equation, A. V. Kuzikovskii and S. S. Khmelevtsov (1968), for evapn. rate of a water drop in a field of various optical-radiation d. At low intensity of irradiation, the exptl. data give good results when the equation is applied. At higher intensity of irradiation, the unsteady-state nature of the evapn. process and anisotropy of temp. field have to be considered to obtain good results.

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REEL/FRAME
19791116

USSR

UDC 551.573

BUKATYY, V. I., and POGODAYEV, V. A., Siberian Physicotechnical Institute Imeni V. D. Kuznetsov, Tomsk State University

"Vaporization of a Drop of Water Under the Action of Infrared Radiation"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 1, 1970, pp 141-142

Abstract: The nonlinear variation with temperature of saturating vapor concentration in calculating the kinetics of vaporization of a drop of water in a radiation field was calculated by A. V. KUZIKOVSKIY and S. S. KEMELEVTSOV. In a stationary approximation for the rate of vaporization of a drop with radius r the following expressions were obtained:

$$r(t) = \begin{cases} r_0 - 0.434 \cdot q W^{1.104} t, & pr \gg 1 \\ r_0 \exp(-0.434 pq W^{1.104} t) & pr \ll 1; \end{cases}$$

The present article describes results of an experimental test of the applicability of these expressions to describe the rate of vaporization of drops in the radiation field of a laser of varying density. The purpose of the investigations was

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USSR

BUKATYY, V. I., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Fizika, No 1, 1970, pp 141-142

to estimate the radiation power flux densities at which the processes of the establishment of vapor concentration and temperature fields cannot be disregarded, as was done in the derivation of the above expressions. It was found that the results of KUZIKOVSKIY and KHEMELEVTSOV are applicable in the case of small radiation power fluxes. For radiation power fluxes of the order of W/cm^2 the non-stationariness of the vaporization process and anisotropy of the temperature field according to the volume of the drop must be considered.

The authors thank P. A. BOKHAN, V. P. KARGIN, and N. N. MATTEYEV for their assistance in preparing the equipment and making the measurements, and S. S. KHEMELEVTSOV for his useful comments and discussions in the course of the work.

1/2 025
UNCLASSIFIED
TITLE--COMPONENT CLASSIFICATION FOR UNIFIED SYSTEM OF DESIGNER
DOCUMENTATION -U-
AUTHOR-(04)-KULIK, L.M., SHNAYDMAN, G.M., POGODIN, B.A., TALLER, S.L.
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR 4, PP 22-30
DATE PUBLISHED-----70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--DESIGN STANDARD, DESIGN FACILITY R AND D MANAGEMENT,
PRODUCTION STANDARD, ENGINEERING STANDARD, DATA PROCESSING SYSTEM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/0109
STEP NO--UR/0422/70/000/005/0022/0030
CIRC ACCESSION NO--AP0122375
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122375

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE PRESENTS A CLASSIFICATIONAL SYSTEM OF DESIGNATIONS FOR PRODUCTS AND DESIGNER DOCUMENTS IN MECHANICAL AND PRECISION ENGINEERING. UNIFICATION OF PRODUCT DESIGNATIONS, INCLUDING THE DESIGNATIONS OF COMPONENT PARTS, IS SUGGESTED AND THEIR CLASSIFICATIONAL CHARACTERISTICS ARE GIVEN. COMPONENT PARTS IN MECHANICAL AND PRECISION ENGINEERING CAN BE CLASSIFIED AS THOSE COMMON FOR ENGINEERING AT LARGE AND THOSE SPECIFIC FOR CERTAIN BRANCHES OF INDUSTRY. FIGS. 5.

UNCLASSIFIED

USSR

UDC 621.762.01(088.8)

POGODIN-ALEKSEYEV, G. I., GAVRILOV, V. M., KHRAMOV, S. P., KHAVROSHKIN, O. B., SYRKIN, V. G., and UEL'SKIY, A. A.

"Method of Producing Dispersed Materials"

USSR Authors' Certificate No 301379, Cl. C 23c 11/02, B 22 f 1/00, filed 7 Apr 66, published 2 Jun 71 (from RZh-Metallurgiya, No 1, Jan 72, Abstract No 1G263P)

Translation of Abstract: A method is suggested for producing dispersed materials by the application of refractory metal compounds to powders through thermal decomposition of vapor of the metal-containing component, with the powder with enhanced mechanical properties, delivery of a layer of powder of the refractory compound is alternated with vapor of the metal-containing component in amounts sufficient to grow a layer of metal, with the metallic component that forms during thermal decomposition undergoing treatment by ultrasonic vibrations through a gaseous medium.

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1/2 021

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--PHASE COMPOSITION OF A BINDER FOR A DIAMOND TOOL -U-

AUTHOR-(03)-POGODINALEKSEYEV, G.I., GRANIK, G.I., NAUMOVA, M.M.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2), 53-4

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--DIAMOND, CUTTING TOOL, ALLOY DESIGNATION, ALUMINUM ALLOY,
COPPER BASE ALLOY, SOLID SOLUTION, INTERMETALLIC COMPOUND, TIN ALLOY,
ZINC ALLOY, MAGNESIUM ALLOY/(U)MS DIAMOND TOOL BINDER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1290

CIRC ACCESSION NO--AP0106071

STEP NO--UR/0129/70/0007032/0053/0054

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0108071

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHASE COMPN. OF THE NEW M5 BINDER CONTG. AL 50, AN 24, CU 15, SN 5.5, MG 3.4, SI 1.5, AND CR 0.6PERCENT WAS STUDIED BY X RAY STRUCTURAL AND MICROPROBE ANAL. METHODS.

THE X RAY PATTERNS WERE OBTAINED BY USING CU K SUBALPHA RADIATION AND POWD. AS WELL AS SOLID SPECIMENS. THE BINDER COMPN. CONSISTS OF 5 PHASES: THE AL BASE SOLID SOLN. CONTG. CU AND ZN (FCC.); THE ZN BASE SOLID SOLN. (HEXAGONAL); THE CUAL SUB2 BASE SOLID SOLN. (TETRAGONAL); THE MGZN SUB2 BASE SOLID SOLN. (HEXAGONAL); AND THE CU SUB3 SN BASE SOLID SOLN. (HEXAGONAL). ALSO A CU BASE SOLID SOLN. (FCC.) AND THE CU SUB6 SN SUB5 COMPD. (THE SUPERSTRUCTURE OF THE NIAS TYPE LATTICE) ARE ASSUMED TO BE PRESENT.

UNCLASSIFIED

AA0044300

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243976 POWERFUL ULTRASONIC OSCILLATIONS IN GASES,
method for their generation. The purpose
of the invention is the generation of an ultrasonic
stream and braking it. This is achieved by generating
additional gas flows on the main stream periphery,
and in case of an electrically conducting gas, by
applying a coaxial magnetic field directed from the
centre to the periphery.

The main gas stream is produced by blowing
gas from a nozzle under an excess pressure.
14.6.67 as 1164303/18-10. STANYUKOVICH, K. P., et alia.
(1.10.69) Bul 17/14.5.69. Class 42a. Int.Cl.B 06b.

AUTHORS: Stanyukovich, K. P., Pogodin-Alekseyev, G. I.,
Kolesnikov, S. M., Khavronskiy, O. B.

19770854

AA0040557

UR 0482

1-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

241017 THERMAL TREATMENT OF OBJECTS MADE OF REFRACTORY ALLOYS, involving heating, quenching and tempering is characterized in that in order to increase the ultimate strength at bending, by 10-30% the refractory alloys are subjected to ultrasonic treatment during the tempering stage. The proposed method is especially effective in the treatment of objects made of refractory alloys containing 6% and

more by weight of cobalt.
16.9.66 as 1114589/22-1. N.K. ROMANENKO et al.
(18.8.69) Bul 13/1.4.69. Class 40b, 40d. Int.Cl.
C 22c, C22 f.

AUTHORS: Romanenko, N. K.; Pogodin-Alekseyev, G. I.; Gavrilov, V. M.; Leshchenko, I. G.; Kartashov, Yu. G. and Novgorodov, A. S. 19750246

M0040759-**POGODIN-ALEKSEYEV, G.I.**
3-70 UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

236175 TOOL, ELECTRODE comprises two identical steel plates of any shape made from hard cermet material which accounts for 25-40% of the volume of the electrode. When fixing the tool to the machine, the cermet plate is placed higher than the steel plate, in relation to the axis of rotation of the wheel being dressed. Current is supplied through the steel in the usual manner. 31.10.67. as 1194944/25-B. Pogodin-Alekseev, G.I. et al. Special Design Office of Committee of Inventions and Discoveries of the Council of Ministers of the USSR. (12.6.69.) Bul.6/24.1.69. Class 48a. Int.C C23b.

19750447

AA0040759

AUTHORS: Pogodin - Alekseyev, C. I.; Gavrilov, V. M.;
Vasil'yev, V. G.; Kanevskiy, Yu. L.; Petrosyan,
A. K.; Ivanov, A. D.

Osoboye Konstruktorsko - Tekhnologicheskoye Byuro
Komiteta po Delam Izobreteniy i Otkrytiy pri
Sovete Ministrov SSSR

19750448

USSR

UDC 632.95

GVOZDEVA, I. V., LURIK, B. B., STARKOV, A. V., KAMENKOV, N. A., FOGODINA, L. N., and SUKHOVA, M. N.

"Search for Synergists of Pyrethrins in the Methylene Dioxy Phenyl Series"

Tr. VNIi dezinfektsii i steriliz. (Works of the All-Union Scientific Research Institute of Disinfection and Sterilization), 1971, vyp. 21, t. 2, pp 101-105 (from RZh-Khimiya, No 18, Sep 72, Abstract No 16N431)

Translation: For purposes of studying synergistic activity, a series of piperonylic acid esters and amides, and piperonal acetals, were synthesized. The synergistic activity of the synthesized compounds was tested in a mixture with pyrethrins in a 10:1 ratio by the topical method. In tests on houseflies, the greatest synergistic activity was shown by butyl, nonyl and cyclohexyl esters and N,N-dipropyl amide. N,N-disubstituted amides are more active than N-substituted amides. Among the amides synthesized on the basis of heterocyclic amines, morpholide showed the greatest activity. The most toxic for red cockroaches were mixtures of pyrethrins with N-isopropyl amide and piperidide. Among the acetals, the most active compounds for houseflies were ethyl carbitolic and butyl carbitolic acetals of piperonal, and butyl and heptyl acetals. The acetals are weak synergists for red cockroaches. An investigation was made of the synergistic activity of the synthesized compounds on strains of houseflies highly resistant to DDT. T. A. Belomyeva.

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USSR

UDC 547.732+535.51+546.16

LAVRUSHIN, V. F., and POZOMINA, E. I., Kharkov State University

"Reaction of Unsaturated Ketones with Phosphorus Pentachloride"

Kiev, Dopevidi Akademii Nauk Ukrain'skoi SSR, No 2, Feb 71, pp 140-143

Abstract: A series of α, β -unsaturated ketones with a thioether nucleus was synthesized. Most of these ketones formed two types of colored compounds when reacted with PCl_5 in various solvents: an orange-red one and a bluish-green one. On the basis of the similarity of the spectra of orange-red solutions in acetonitrile and in sulfuric acid, it is proposed that a chloro-carbonium ion is formed in the process. In the case of the bluish-green compound, the spectra taken in benzene were similar to those taken in trichloroacetic acid anhydride containing trichloroacetic acid; an assumption was made that acyloxycarbonium ions must have formed in both cases and that when the solution color changed from bluish-green to orange-red (as in the case of benzene solution) first the ion $:C^+-OPOCl_2$ must have formed, which then converted to the $:C^+-Cl$ ion. A direct relationship between the absorption maxima and the number of vinyl groups was noted for all the studied thioether analogues of chalcone and its vinyllogues.

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1/2 030

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

TITLE--NATURAL AGING OF ALLOY AL11 AFTER ITS TREATMENT BY HEXACHLORAMINE
OF ALUMINUM AND ULTRASONIC -U-

AUTHOR--(02)-POSDINA ALEKSEYEVA, K.M., DYACHENKO, L.I.

COUNTRY OF INFO--USSR

SOURCE--SBERNIK TRUDOV, USLOVIE KONSTRUKTORSKO-TEKHNOLIGICHESKOYE RYDRA
REFERENCE--REFERATIVNYY ZHURNAL, METALLURGIYA, NO 1, 1970, ABST NO 11540
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METAL AGING, ALLOY DESIGNATION, ALUMINUM ALLOY, ALLOY
COMPOSITION, ULTRASONIC EFFECT, FOUNDRY TECHNOLOGY, CHLORAMINE, NITROGEN
CONTAINING ALLOY, MECHANICAL STRENGTH, SILICON CONTAINING ALLOY, ZINC
CONTAINING ALLOY, PRECIPITATION HARDENING(1)AL11 ALUMINUM ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1639

STEP NO--UR/0000/69/000/002/0111/0114

CIRC ACCESSION NO--ARON4194

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--07OCT70

CIRC ACCESSION NO--AR0114194

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ALLOY AL11 (7PERCENT SI, 12PERCENT ZN, REMAINDER, AL) WAS TREATED BY THE HEXACHLORAMINE IN A LIQUID STATE AT 790-810DEGREES AND WAS POURED AT 720-740DEGREES INTO AN INGOT MOLD HEATED TO 180-200DEGREES. ALLOY AL11 IS SELF HARDENING. AS A RESULT OF TREATMENT BY THE HEXACHLORAMINE IN A LIQUID STATE, THE HARDNESS OF THE ALLOY AFTER NATURAL AGING INCREASED BY A FACTOR OF 1.5 (FROM 89.7 TO 131 KG-MM PRIME2) IN COMPARISON TO THE HARDNESS OF THE ALLOY, AFTER NATURAL AGING, WHICH WAS NOT TREATED BY THE HEXACHLORAMINE IN A LIQUID STATE. THE INCREASE IN THE STRENGTH OF THE ALLOY IS EXPLAINED BY EFFECT OF N, THE CONTENT OF WHICH, DUE TO THE INTRODUCTION OF THE HEXACHLORAMINE, INCREASED FROM 0.001 TO 0.01. THE MICROSTRUCTURE ALSO IMPROVED. A SERIES OF EXPERIMENTS WAS DEVOTED TO STUDYING THE INFLUENCE OF ULTRASOUND, INTRODUCED INTO THE FUSION WHILE THE HEXACHLORAMINE IN THE LIQUID STATE WAS BEING MIXED IN, UPON THE NATURAL AGING OF ALLOY AL11. ULTRASOUND INCREASES THE EFFECT OF STRENGTHENING THE ALLOY, APPARENTLY INCREASING THE SOLUBILITY OF N IN THE ALLOY AND FACILITATING THE DEVELOPMENT OF GREATER COMPLEXITY OF ITS STRUCTURE.

ALFA A00100001

1/3 - 041
UNCLASSIFIED
TITLE--HEAT RESISTANT CAST IRONS FOR GLASS MOLDS -U- PROCESSING DATE--090C170
AUTHOR--(OSI)--YAKUBOVICH, B.I., POGODINA ALEKSEYEVA, K.M., UDALTSOV, V.I.,
LUPATKINA, L.I., KULINICH, V.P.
COUNTRY OF INFO--USSR
SOURCE--STEKLO KERAM. 1970, 27(2), 16-18
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--HEAT RESISTANT METAL, CAST IRON, MOLDING MATERIAL, PYREX
GLASS, ANNEALING, SILICON, PHOSPHORUS, NICKEL CONTAINING ALLOY,
GRAPHITE, GRAIN BOUNDARY, PLASTICITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1955
STEP NO--UR/0072/70/027/002/0016/0018
CIRC ACCESSION NO--AP0112924
UNCLASSIFIED